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Table II (page 1)

## A CLASSIFIED LIST OF FERTILIZER DISTRIBUTING MACHINES AND DEVICES ON THE MARKET

Compiled by  
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This partial list of machines and general specifications was taken from such manufacturers' literature and other records (1934 to 1936) as could be obtained by the Bureau of Agricultural Engineering, United States Department of Agriculture, Washington, D. C.

Note. (a) Refers to specifications on which information either was not given or was indefinite in the records on file.

## 1. WHEELLESS DISTRIBUTING EQUIPMENT --- CARRIED AND HAND OPERATED

Manufacturer	Trade name or Catalog No.	General type of machine	Size or area covered	General type of fertilizer dispenser	Rates in lbs/A	Crops or conditions intended for	Placement of the fertilizer in the soil
Acer and Wadon, Inc.	A & W Hinger	Vertical cylinder	1 hill	Cone valve, gravity feed	1 to 4 ozs/H	Plants or hills	Ring 8" Dia. on surface around hill
Acmeine Mfg. Co.	Acme 308	Band corn planter attach.	1 hill	(a)	(a)	Corn, etc.	Spot at side of hill level with seed
do	Acme 315	Bucket type	1 spot	Agitator	(a)	Gen'l, small areas	Circular spot on surface
Bradley, David, Mfg. Works	6257	Band corn planter attach.	1 hill	(a)	(c)	Corn, etc.	Spot in hill
Browning and Son	Circle A, B, C	Container, hand carried	1 hill	Ball plunger & valve	Max. $\frac{1}{4}$ lb/H	Plants or hills	Ring 8" Dia. on surface around plant
do	Circle B	Container, hand carried	1 hill	Ball plunger & valve	Max. $\frac{1}{4}$ lb/H	Plants or hills	Band 3 by 12" on surface at side of plant
Cyclone Seeder Co.	Loc-out	Shoulder sack with tube	1 spot	Knocker (scatterer)	(a)	Gardens, etc.	Spot on surface
do	Dual purpose	Broadcaster, centrifugal	16 ft.	Gravity & plate-fan	100 to 300	Granular fert.	Broadcast on surface
Eagle Machine Co.	Gem	Band corn planter attach.	1 hill	(a)	(a)	Corn, etc.	Spot in hill
Heronak Mfg. Co.	Invincible	Vertical cylinder	1 hill	Plunger	50 to 350	Plants or hills	Ring on surface around hill
Waterman, Adolph, G.	Economy	Vertical cylinder	1 hill	Oscillating cell plate	(a)	Plants or hills	Ring 11" Dia. on surface around hill
Gondell Co.	Caboon	Broadcaster, centrifugal	(a)	Gravity, vertical rotating scatterer	(a)	Granular fert.	Broadcast on surface
Plant Food Appliance Co.	Little Wonder	Jabber type	1 hill	(a)	(a)	Plants or hills	Spot at each side of row at the hill

## 2. BROADCAST DISTRIBUTORS, WHEEL TYPE --- PUSHED BY HAND

Allen, S. L. & Co. Inc.	Planet Jr 220	Wheelbarrow	12 - 22"	Knocker	200 to 2000	Row crops	Broadcast or band on surface through tubes, adj.
do	Planet Jr 235	Scatter. att. on 220 Distr	36"	Knocker	200 to 2000	Golf greens, etc.	Broadcast on surface
do	Planet Jr 210	Cart	14"	Agitator-adj. openings	(a)	Lawns, etc.	Broadcast on surface
American Gyramid Co.	Aero	Hopper plans only	As built	Gravity-adj. openings	200 to 500	Granular fert.	Broadcast or bands on surface, control openings
Bradley, David, Mfg. Works	6156 & 6157	Cart	18 & 30"	Rotating blades	(a)	Lawns, etc.	Broadcast on surface
do	6155	Cart	16"	Rotating agitator	(a)	Lawns, etc.	Broadcast on surface
Campbell-Hausfeld Co.	Campbell	Cart	30"	Wobble screw agitator	(a)	Lawns, etc.	Broadcast on surface
do	Paragon	Cart	36"	(a)	(a)	Lawns, etc.	Broadcast on surface
do	Truckers J. 52	Wheelbarrow	Max. 36"	Vibrator	(a)	Row crops	Broadcast or band on surface thru adj. tubes
Eastern States Farmers Exch.	Eastern states	Wheelbarrow	10 ft.	Double chain	(a)	Gen'l	Broadcast on surface
Farquhar, A. B., Co. Ltd.	McBortor 21	Wheelbarrow	1 row with	Endless belt	0 to 2500	Gen'l	Broadcast or band on surface thru 4 adj. tubes
Foots, J. B., Foundry Co.	Panama	Cart	17 to 30"	(a)	(a)	Lawns, etc.	Broadcast on surface
Hampshire Implement Co.	Stevens	Cart	22 & 34"	(a)	(a)	Lawns, etc.	Broadcast on surface
Hofst and Co., Inc.	Mc's 500	Cart	21"	Spiral agitator	(a)	Lawns, etc.	Broadcast on surface
do	Mc's 505	Cart	16"	Spiral agitator	(a)	Lawns, etc.	Broadcast on surface
do	Junior	Cart, centrifugal	12 ft.	Rotating agitator	(a)	Lawns, etc.	Broadcast on surface
do	Junior	Cart	15"	Rotating agitator	(a)	Lawns, etc.	Broadcast on surface
do	Masters (three)	Cart	16, 24, 36"	Rotating agitator	(a)	Lawns, etc.	Broadcast on surface
Fender Mfg. & Supply Co.	So-rite, 3BM	Wheelbarrow	Max. 24"	Reel agitator	100 to 3000	Row crops	Broadcast or band on surface thru adj. tubes
Foot Mfg. Co.	All purpose	Cart	36"	Triple roll agitator	(a)	Lawns, etc.	Broadcast on surface
do	Hoffman (three)	Cart	14, 18, 30"	Reel agitator	120 to 5800	Lawns, etc.	Broadcast on surface
Salem Tool Co.	Salem (several)	Cart	2 to 6 ft.	Reel agitator	wide range	Parks, etc.	Broadcast on surface
do	Sacco (two)	Cart	18 & 30"	Rotating agitator	(a)	Lawns, etc.	Broadcast on surface
do	Hawks	Cart	20"	Triple cylinder	(a)	Lawns, etc.	Broadcast on surface
Smith Agri. Chemical Co.	Lavette (six)	Cart	14 to 36"	(a)	(a)	Lawns, etc.	Broadcast on surface
Standard Equipment Co.	Thompson 108	Wheelbarrow	30"	(a)	(a)	Lawns, etc.	Broadcast or bands on surface (tubes removable)
Thompson, O. E., & Sons	Royal 210	Wheelbarrow	6 ft.	(a)	(a)	Gen'l	Broadcast on surface
do	Fairway 106	Wheelbarrow	10 ft.	(a)	(a)	Golf courses, etc.	Broadcast on surface
do	Thompson 112, 110	Wheelbarrow	3 & 6 ft.	Vibrator	50 to 125	Golf courses, etc.	Broadcast on surface
do	Thompson 208	Cart	6 ft.	Vibrator	435 to 2000	Golf courses, etc.	Broadcast on surface
do	Todd 0	Wheelbarrow	1 row width	Vibrating pan	435 to 4300	Parks, etc.	Broadcast on surface
Todd Co., Inc.					Wide range	Row crops	Broadcast or bands on surface thru adj. tubes

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Production	Area in acres	Yield per acre	Value per acre	Remarks
Wheat	100	10	100	
Barley	50	5	50	
Oats	50	5	50	
Rye	50	5	50	
Tritic	50	5	50	
Flax	50	5	50	
Alfalfa	50	5	50	
Hay	50	5	50	
Grass	50	5	50	
Legume	50	5	50	
Other	50	5	50	
Total	500	5	500	

REPORT OF THE COMMISSIONER OF THE GENERAL LAND OFFICE  
RE: LAND IN THE STATE OF TEXAS  
TO THE SECRETARY OF THE INTERIOR  
DEPARTMENT OF THE INTERIOR  
WASHINGTON, D. C.

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## 3. BROADCAST DISTRIBUTORS AND DRILLS, WHEEL TYPE - HORSE DRAWN

Manufacturer	Trade name or Catalog No.	General type of machine	Size or area covered	General type of fertilizer dispenser	Rates in Lbs/A	Crops or conditions for which intended	Placement of the fertilizer in the soil
Bradley, David, Mfg. Wks	1133	Cart, 2-horse	8 ft.	Paddle agitator	250 Min.	General	Broadcast or bands on surface
do	1154	Cart, 1-horse	6 ft.	Paddle agitator	250 Min.	General	Broadcast or bands on surface
Caledonia Bean Harv. Wks	Caledonia	Cart, 2-horse	5 to 10 ft.	Rotating agitator	200 to 4000	Gen'l, lime	Broadcast on surface
Garm Mfg. Co.	Crown	Cart, 2-horse	8 ft.	Rotating wing agitator	(a)	Gen'l, lime	Broadcast on surface
Farm Tools, Inc.	Peoria	Drill, 2-horse	8 ft., 14, 20 tube	Star wheel with adj. gate	(a)	Onions, Veg. crops	Bands in furrows 7 or 12" apart
do	New Peoria	Cart, 2-horse	8 ft.	Finger wheel	100 to 6000	General	Broadcast on surface
Hamphshire Implement Co.	Stevens 5	Cart, 1-horse	6 ft.	Reel agitator	500 to 8000	General	Broadcast on surface
do	Stevens 8	Cart, 2-horse	8 ft.	Reel agitator	500 to 8000	General	Broadcast on surface
Haines, W. D.	Universal	Cart, 1 and 2-horse	8 ft.	Rotating agitator	Wide range	General	Broadcast or bands on surface
Holden Co.	Junior	Cart, centrifugal	12 ft.	Rotating agitator	(a)	General	Broadcast on surface
International Harv. Co.	McC-Deering	Cart, 1 and 2-horse	7 and 9 ft.	Reciprocating feed plates	10 to 2350	General	Broadcast on surface
do	McC-Deering	Cart, 2-horse	8 ft.	Rotating wing agitator	168 to 13000	General, lime	Broadcast on surface
Leroy Plow Co.	1-Acme 6, 8, 10	Cart, 1 and 2-horse	6 and 8 ft.	Rotating wing agitator	Wide range	General, lime	Broadcast on surface
Ohio Cultivator Co.	Monoreil	Cart, 2-horse	7 and 8 ft.	Reel agitator	100 to 5000	General	Broadcast on surface
do	Thomas	Cart, horse & tractor	4 and 5 ft.	Reel agitator (a)	(a)	Orange grove	Broadcast in bands in furrows 7" apart
Oliver Farm Equip. Co.	Superior 1	Cart, 2-horse	9 ft.	Finger wheel	45 to 5400	General	Broadcast on surface
do	Superior 16	Cart, 2-horse	8 ft.	Rotating wing agitator	300 to 6000	General, lime	Broadcast on surface
Ontario Drill Co.	Ontario H	Cart, 2-horse	6 to 12 tube	Finger wheel	40 to 2000	General	Broadcast or bands on surface thru adj. tubes
Pender Mfg. & Supply Co.	So-rite (Series)	Cart, 2-horse	6 and 8 ft.	Rotating wing agitator	Wide range	General, lime	Broadcast on surface
Self Mfg. Co.	Self	Cart, 1 and 2-horse	2 to 10 ft.	Reel agitator	200 to 5000	General	Broadcast on surface
Todd Co., Inc.	Todd 0, 7, 8, 15	Cart, 2-horse	8 and 10 ft.	Rotating wing agitator	(a)	Gen'l, phosphate	Broadcast on surface
Van Brunt Mfg. Co. (Deere)	Van Brunt H	Cart, 1-horse	1 to 8 ft.	Vibrating pan	(a)	General	Broadcast or bands on surface thru adj. tubes
do	Van Brunt A	Cart, horse, tractor, truck	8 ft.	Rotating wing agitator	200 to 8000	General	Broadcast on surface
do	Van Brunt A	Cart, horse, tractor, truck	8 ft.	Star wheel with adj. gate	45 to 4950	General, lime & P.	Broadcast on surface
Wade, R. M., Co.	Multnomah	Cart, 1 and 2-horse	6 and 10 ft.	Rotating agitator	35 to 6000	General	Broadcast on surface

## 4. BROADCAST DISTRIBUTORS AND DRILLS, WHEEL TYPE - TRACTOR AND TRUCK DRAWN

Burch Corporation	Master	Cart, trailer for truck	Approx. 20 ft	(a), & 2 plate-fan scatters	(a)	Lime materials	Broadcast on surface
Greenville Mfg. Works	AA Grills	Cart, trailer for truck	8 ft.	Roller	Wide range	Lime materials	Broadcast on surface
Haines, W. D.	Universal	Cart, tractor	10 & 12 ft.	Rotating agitator	Wide range	General	Broadcast or bands on surface
Portable Elevator Mfg. Co.	Little Giant	Trailer, centrifugal	16 ft.	Rotating agitator	(a)	General, lime	Broadcast on surface (listed under Sec. 5)
Thompson, O. E., & Sons	Fairway 915	Cart, Truck or tractor	9 ft.	(a), & 2 plate-fan scatters	100 to 8000	Parks, etc.	Broadcast on surface
Van Brunt Mfg. Co. (Deere)	Van Brunt H	Cart, horse, tractor, truck	8 ft.	Rotary wing feed	200 to 8000	General	Broadcast on surface (also listed under Sec. 3)
do	Van Brunt A	Cart, horse, tractor, truck	8 ft.	Star wheel with adj. gate	45 to 4950	General, lime & P.	Broadcast on surface (also listed under Sec. 3)

## 5. BROADCAST DISTRIBUTORS, WAGON ENDGATE TYPE

A-C Manufacturing Co.	A-C	Endgate, centrifugal	16 to 25 ft.	Endless chain, & 2 plate-fan scatters	500 to 800	General	Broadcast on surface
American Cyanamid Co.	Aero	Hopper plans only	As built	Gravity-adjustable openings	200 to 500	Gen'l, granular P.	Broadcast or bands on surface thru selected openings
Bradley, David Mfg. Works	1159	Trailer, centrifugal	(a)	Agitator & 2 plate-fan scatters	(a)	General	Broadcast on surface
do	1153	Endgate, centrifugal	(a)	Worm & 2 plate-fan scatters	150 Min.	General	Broadcast on surface
Farm Tools, Inc.	Peoria	Endgate, centrifugal	20 ft.	(a), & 2 plate-fan scatters	(a)	General	Broadcast on surface
Geyer Mfg. Co.	Geyer	Trough hopper del. tubes	Est. 5 ft.	Rotating wing agitator	(a)	General	Broadcast on surface
Holden Co.	Duplex	Endgate, centrifugal	20 ft.	Augur & 2 plate-fan scatters	75 to 10000	General	Broadcast on surface
do	Illinois	Endgate, centrifugal	20 ft.	Augur & 1 plate-fan scatterer	100 to 10000	General	Broadcast on surface
International Harv. Co.	McC-Deering	Endgate, centrifugal	15 ft.	(a), & 2 plate-fan scatters	Wide range	General, lime	Broadcast on surface
do	New Way	Endgate, centrifugal	(a)	(a)	(a)	General	Broadcast on surface
New Way Spreader Co.	Little Giant	Trailer, centrifugal	16 ft.	Rotating agl. & 2 plate-fan scatters	100 to 8000	General, lime	Broadcast on surface
Portable Elevator Mfg. Co.	Red Cross	Endgate, centrifugal	20 ft.	Screw & 2 plate-fan scatters	150 to 10000	General, lime	Broadcast on surface
do	Ruhm	Trough hopper	10 ft.	Vibrator	100 to 3000	General	Broadcast on surface

## 6. ROW DISTRIBUTORS - PUSHED BY HAND

Allen, S.L., & Co., Inc.	Planet Jr 220	Wheelbarrow, hand & horse	1 row	Knocker	200 to 2000	Row crops	Band or broadcast on surface thru adj. tubes
do	Truckers J-52	Wheelbarrow, hand & horse	1 row	Vibrator	(a)	Row crops	Band or broadcast on surface thru adj. tubes
Colle Mfg. Co.	Iron Age 323	Two-wheel	1 row	Rotating plate & descending scraper	(a)	Vegetable crops	In two bands adj. 0 to 6" apart
Ellie-Leystone Agri. Wks.	McWhorter 21	Wheelbarrow	1 row	Endless belt	0 to 2500	Row crops	Band or broadcast on surface thru adj. tubes
Farguhar, A. B., Co., Ltd.	So-rite JHM	Wheelbarrow	1 row	Reel agitator	100 to 3000	Row crops	Band or broadcast on surface thru adj. tubes
Pender Mfg. & Supply Co.	Thompson 108	Wheelbarrow	1 row	(a)	(a)	Gardens, lawns	Band or broadcast on surface, tube removable
Thompson, O. E., & Sons	Todd 0	Wheelbarrow	1 row	Vibrating pan	Wide range	Row crops	Band or broadcast on surface thru adj. tubes
Todd Co., Inc.							







Table II (page 3)

## 7. ONE-ROW DISTRIBUTORS - HORSE DRAWN

Manufacturer	Trade name or Catalog No.	General type of machine	General type of fertilizer dispenser	Rates in lbs/a	Crops	Placement of the fertilizer in the soil
Allen, S.L., & Co., Inc.	Planet Jr 220	Walking, 1 front wheel, 1 horse	Knocker	200 to 2000	Row Crops	6" band in open furrow thru adj. tubes
Avery, B.F., & Sons Co.	Pat Guano	Walking, 1 rear wheel, 1 horse	Rotating agitator	(a)	Row Crops	4" band in shovel furrow 0 to 8" deep
do	(Knocker, Knock-out K 7)	Walking, 1 rear wheel, 1 horse	Knocker hopper	(a)	Row Crops	4" band in shovel furrow 0 to 8" deep
do	Vibrator 1	Walking, 1 rear wheel, 1 horse	Vibrating open-end pan	(a)	Row Crops	4" band in shovel furrow 0 to 8" deep
do	Vibrator 2	Walking, 1 rear wheel, 1 horse	Vibrating open-end pan	(a)	Row Crops	Band on surface or in open furrow and covered
do	Sugarland	Riding, cart, 2 horse	Rotating plate	(a)	Row Crops	Band on surface each side of row, (for sugar cane)
Blount Flow Works	Blount O & 8	Walking, 1 rear wheel, 1 horse	Rotating agitator	(a)	Row Crops	Band in shovel furrow, depth adj.
do	Blount 1 & 9	Walking, 1 rear wheel, 1 horse	(1)Knocker H, (2)Vibrating pan	(a)	Row Crops	Band in shovel furrow, depth adj.
Blue, John	Rox	Walking, 1 front wheel, 1 horse	Tapered screw	(a)	Row Crops	Band in open furrow and covered
Camp, E.N., & Sons Co.	Case 38	Walking, 1 front wheel, 1 horse	Knocker	(a)	Row Crops	Band in shovel furrow, depth adj.
Case, J.I. Co.	Cokers 52	Walking, 1 front wheel, 1 horse	Star wheel	(a)	Row Crops	Band in shovel furrow, depth adj.
Cokers Pedigreed Seed Co.	Cokers 54	Walking, 1 front wheel, 1 horse	Propeller	100 to 1000	Row Crops	Band in open furrow and covered
do	Cokers Soda	Walking, 1 front wheel, 1 horse	Grinding wheel	125 to 2000	Row Crops	Band in open furrow and covered
do	Cole 20	Walking, 2 wheel, 1 horse	(a)	50 to 600	Row Crops	Band in shovel furrow, depth adj.
do	Cole 21	Walking, 1 rear wheel, 1 horse	Knocker hopper	Max. 1000	Row Crops	Band in shovel furrow, depth adj.
do	Cole 22 & 27	Walking, 1 front wheel, 1 horse	(a)	Max. 1500	Row Crops	Wide band in open furrow and covered
do	Cole 23	Walking, 1 front wheel, 1 horse	Knocker	(a)	Row Crops	Band in open furrow and covered
do	Cole 24	Walking, 1 rear wheel, 1 horse	Rotating pan with plow	(a)	Row Crops	Band in shovel furrow, depth adj.
do	Cole 26	Walking, 1 front wheel, 1 horse	(a)	(a)	Row Crops	Wide band in open furrow and covered
do	Cole 28	Walking, 1 rear wheel, 1 horse	(a)	(a)	Row Crops	Band in shovel furrow, depth adj.
do	Vibra-Knock 29	Walking, 1 rear wheel, 1 horse	Vibrating hopper bottom	(a)	Row Crops	Band in shovel furrow, depth adj.
do	Accur. Meas. 48	Walking, 1 front wheel, 1 horse	Rotating double plate	(a)	Row Crops	Band in shovel furrow, depth adj.
do	Circle Knock 50	Walking, 1 front wheel, 1 horse	Knocker (Ocell. dihed plate)	Max. 2500	Row Crops	Wide band in open furrow and covered
do	Truckers F. 52	Walking, 1 front wheel, 1 horse	Vibrator	Max. 3000	Row Crops	Band in open furrow or broadcast
do	Cole 60	Walking, bedding disks, 1 horse	Rotating dish plate	30 to 540	Row Crops	Band on surface and bedded on
do	Cole 66	Walking, 1 rear wheel, 1 horse	Rotating cyl.-top delivery	(a)	Row Crops	Band in shovel furrow, depth adj.
Covington, W. F.	Double Stream	Walking, 1 rear wheel, 1 horse	Knocker, double drive	(a)	Row Crops	Two bands 5" apart deposited behind 14" sweep
Eureka Mower Co.	Eureka 140	Walking, 3 wheel, 1 horse	Twin screw	300 to 4500	Row Crops	Either 2 bands or mixed with soil in row
do	Eureka 171	Riding, 2 wheel, 2 horse	Pin screw	300 to 4500	Row Crops	Either 2 bands or mixed with soil in row
Farquhar, A.B., Co., Ltd.	Iron Age 471	Riding, 2 wheel, 1 horse	Endless belt	(a)	Row Crops	Two bands 6" apart and bedded on
do	McHortler 11	Walking, 2 wheel, 1 horse	Endless belt	300 to 3750	Row Crops	Bands on surface or in open furrow thru adj. tubes
Gantt Mfg. Co.	Gantt 1	Walking, 1 rear wheel, 1 horse	Rotating wing agitator	(a)	Row Crops	Band in shovel furrow, depth adj.
do	Gantt 2	Walking, 1 front wheel, 1 horse	Rotating wing agitator	100 to 1000	Row Crops	Band in shovel furrow and covered, depth adj.
do	Gantt 3	Walking, 1 rear wheel, 1 horse	Knocker hopper	(a)	Row Crops	Band in shovel furrow, depth adj.
do	Gantt 4	Walking, 1 rear wheel, 1 horse	Vibrating open-end pan	(a)	Row Crops	Band in shovel furrow, depth adj.
do	Gantt 6	Walking, 1 front wheel, 1 horse	(a)	100 to 2000	Row Crops	Band in open furrow and covered
Eaines, W. D.	Universal	Walking, 2 wheel, 1 horse	Rotating agitator	(a)	Row Crops	Band in open furrow or broadcast on surface
Hardy and Nerson	Perfection	Walking, 1 front wheel, 1 horse	Knocker	(a)	Row Crops	Band in open furrow and covered
Harriman Mfg. Co.	Powler	Walking, 1 front wheel, 1 horse	Rotating agitator	50 to 500	Row Crops	Two bands in furrows or mixed with soil in row
do	Roanoke	(a)	(a)	(a)	Row Crops	(a)
Harrington Mfg. Co.	McCleering 2	Walking, 1 front wheel, 1 horse	Vibrating pan	100 to 2000	Row Crops	Band in shovel furrow, depth adj.
International Harv. Co.	McCleering 10	Walking, 1 front wheel, 1 horse	Vibrating pan	100 to 2000	Row Crops	Band in open furrow and covered
Kelly, G.A., Plow Co.	Kelly 1	Walking, 1 rear wheel, 1 horse	Rotating agitator	(a)	Row Crops	Band in shovel furrow, depth adj.
do	Shaker 8	(a)	(a)	(a)	Row Crops	(a)
do	Kelly 7/11	Walking, 1 rear wheel, 1 horse	Rotating pan	(a)	Row Crops	Band in shovel furrow, depth adj.
do	Boss & Dandy	Walking, 1 front wheel, 1 horse	(a)	(a)	Row Crops	Band in furrow, (Fert. & Seed Hoppers interchangeable)
King Flow Co.	Pearson 142, Ga. Cracker 2 & 3, and Ga. Boy 5	Walking, 1 rear wheel, 1 horse	(a)	(a)	Row Crops	(a)
do	Ga. Cracker 1	Walking, 1 rear wheel, 1 horse	Knocker hopper	(a)	Row Crops	Band in shovel furrow, depth adj.
do	King Vibrator	Walking, 1 rear wheel, 1 horse	Rotating agitator	(a)	Row Crops	Band in shovel furrow, depth adj.
do	King 24	Walking, 1 rear wheel, 1 horse	Vibrating pan	(a)	Row Crops	Band in shovel furrow, depth adj.
do	XP Big Boy	Walking, 1 rear wheel, 1 horse	(a)	(a)	Row Crops	Band in open furrow and covered
Lilliston Implement Co.	Lilliston	Walking, 1 front wheel, 1 horse	Vibrating pan	(a)	Row Crops	Band in furrow 2 to 10" deep
Oliver Farm Equip. Sales Co.	Superior 3	Walking, 1 front wheel, 1 horse	Vibrating pan	200 to 2400	Row Crops	Band in open furrow and covered
Pender Mfg. & Supply Co.	So-rite	Walking, cart, 1 horse	Rotating wing agitator	300 to 4000	Row Crops	Band 6 to 10" wide in open furrow
Southern Plow Co (Columbus, Ga.)	Victory, Muscogee, and Sea	Walking, 1 rear wheel, 1 horse	Knocker hopper	(a)	Row Crops	Band in shovel furrow, depth adj.
do	Georgia	Walking, 1 rear wheel, 1 horse	Rotating agitator	(a)	Row Crops	Band in shovel furrow, depth adj.
do	Camp	Walking, 1 rear wheel, 1 horse	Vibrating open-end pan	(a)	Row Crops	Band in shovel furrow, depth adj.
do	Giant	Walking, 1 front wheel, 1 horse	Knocker	(a)	Row Crops	Band in open furrow and covered
Southern Plow Co (Dallas, Tex.)	Ledbetter 324	Walking, 1 front wheel, 1 horse	Rotating plate with plow	(a)	Row Crops	Band in shov furrow, (Fert. & Seed hoppers interchangeable)
Syracuse Chilled Plow Co (Deere)	Hoover	Riding, cart, 2 horse	Rotating plate with deflector	75 to 3400	Row Crops	Two bands in furrows and bedded on
Todd Co., Inc.	Todd 3	Walking, 1 front wheel, 1 horse	Vibrating pan	(a)	Row Crops	Band in open furrow
do	Todd 5	Walking, cart, 1 horse	Vibrating pan	(a)	Row Crops	Band in open furrow
Wayne Agricultural Works, Inc.	Wayne	Walking, 1 front wheel, 1 horse	Vibrating pan	(a)	Row Crops	Band 7" wide in open furrow and covered
White's, S.H., Sons, Inc.	Favorite	Walking, 1 front wheel, 1 horse	Vibrating pan	(a)	Row Crops	Band in open furrow
Whitehurst, R.W., Mfg. Corp.	K P	Walking, 1 front wheel, 1 horse	Vibrating pan	(a)	Row Crops	Band in open furrow
*Cole Mfg Co.	(a)	Walking, 1 front wheel, 1 horse	Vibrating pan	Wide range	Row Crops	Two bands 8" apart in furrows and bedded on







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## 8. TWO-ROW DISTRIBUTORS

Manufacturer	Trade name or Catalog No.	General type of machine	Size, No of rows	General type of fertilizer dispenser	Rates in Lbs/A	Crops or Conditions	Placement of the fertilizer in the soil
American Cyanamid Co.	Miller	2 horse	2 row	Rotating vertical spider	50 to 500	Widely spaced rows	Band on surface or in open furrows
Eureka Mower Co.	Eureka 172	2 horse	2 row	Twin screw	300 to 4500	Widely spaced rows	Either 2 bands or mixed with soil in row
Farquhar, A.B., Co., Ltd.	McWhorter 12413	1 horse	2 row	Endless belt	200 to 2000	Row crops	On surface or in open furrows thru adj. tubes
Baines, W. D.	Universal	1 and 2 horse	2 row	Rotating agitator	Wide range	Row crops	Band or broadcast on surface
International Harvester Co.	Bedder F-1	Tractor mounted	(a)	Rotating pan & adj. plows	0 to 3000	Row crops	Band and bedded on
Pender Mfg. & Supply Co.	So-rite	1 horse	2 row	Reel agitator	200 to 5000	Row crops	Bands on surface thru tubes spaced as desired
Syracuse Chilled Flow Co.(Deere)	Hoover	Cart, horse or tractor	2 row	Rotating plate with deflector	75 to 3400	Row crops, potatoes	Two bands and bedded on
Todd Co., Inc.	Todd g	Cart, 1 horse	2 row	Vibrating pan	(a)	Row crops	Bands in open furrows thru adj. tubes

## 9. THREE OR MORE-ROW DISTRIBUTORS

Eureka Mower Co.	Eureka 173	2 horse	3 row	Twin screw	300 to 4500	Widely spaced rows	Either 2 bands or mixed with soil in row
Farquhar, A.B., Co., Ltd.	McWhorter 12414	1 and 2 horse	3 & more	Endless belt	Wide range	Row crops	Bands in open furrows thru adj. tubes
Baines, W. D.	Universal	1 and 2 horse	3 & more	Rotating agitator	Wide range	Row crops	Bands on surface, tubes spaced as desired
International Harvester Co.	FA-57	Tractor mounted	4 row	Rotating diaphragm plate	Max. 800	Cotton, land bedded	Band and bedded on
Ontario Drill Co.	Ontario B	2 horse	3 & more	Flagger wheel	40 to 2000	Row crops	Bands on surface thru adj. tubes
Pender Mfg. & Supply Co.	So-rite	1 and 2 horse	3 & more	Reel agitator	200 to 5000	Row crops	Bands on surface, tubes spaced as desired
Todd Co., Inc.	Todd 7 & 15	Cart, 1 horse	3 & more	Vibrating pan	(a)	Row crops	Bands on surface, tubes spaced as desired

## 10. DISTRIBUTORS COMBINED WITH VEGETABLE SEEDERS - PUSHED BY HAND

Allen, S.L. & Co., Inc.	Planet Jr 320	1 front, 1 rear wheel	1 row	Knocker-oscill. circ. pan	100 to 1000	Vegetable crops	Band 5" to each side or in furrow with seed
do	Iron King 45	1 front, 1 rear wheel	1 row	(a)	(a)	Vegetable crops	Band under seed
Ellis-Keystone Agricultural Mks	Iron Age 322	2 wheel	1 row	Rotating plate, descending	(a)	Vegetable crops	Band adj. from 0 to 3" to each side of row
Marvel Seeder Co., Inc.	Marvel	1 front wheel	1 row	Vertical feed wheel	80 to 2500	Vegetable crops	Hill or drill, band 1" wide, 6" long, 0 to 2.5" to each side of hill. Also in row depth adj.

## 11. DISTRIBUTORS COMBINED WITH ONE-ROW, WALKING TYPE PLANTERS - ONE HORSE

Avery, E.F. & Sons, Co., Inc.	Shawnee & Dixie	1 front wheel	Rotating pan with plow	(a)	Cotton, corn, etc.	Mixed with soil above seed. Deposited, front of seed shoe
do	Robtail	1 rear wheel	Rotating pan with plow	(a)	Cotton, corn, etc.	Spot 2.5" behind seed hill in same furrow
do	New Union	1 rear wheel	Rotating plate	(a)	Corn, beans, etc.	Drilled, band directly over seed
do	Terrace King	2 wheel	Rotating pan with plow	(a)	Cotton, corn, etc.	Drilled, (a)
Elemt Flow Works	Mount 52	1 rear wheel	Rotating pan with plow	(a)	Corn, beans, etc.	Drilled, in furrow above seed
Bradley, David, Mfg. Mks	Bradley 453	1 rear wheel	Star wheel & agitator	(a)	Corn, beans, etc.	Drilled, in furrow directly above seed
do	Bradley	(a)	Star wheel & agitator	(a)	Cotton, corn, etc.	Drilled in furrow with seed
Campbell-Rausfeld Co.	Campbell 111	1 front wheel	Knocker	(a)	Corn, beans, etc.	Drilled, (a)
Case, J. I., Co.	47 (H50 Fl'tr)	1 rear wheel	Knocker	(a)	Cotton, corn, etc.	Drilled, 1.5" band, 1/2" to each side, 1/2" above seed level
do	47 (H51 Fl'tr)	2 wheel	Rotating pan with plow	(a)	Cotton, corn, etc.	Drilled, (a)
do	41	1 rear wheel	Rotating pan with plow	(a)	Cotton, corn, etc.	Drilled, (a)
do	Cole 3 & 4	2 wheel	Rotating pan with plow	(a)	Cotton, corn, etc.	Drilled, (a)
do	Cole 7 & 8	2 wheel	Rotating pan with plow	(a)	Cotton, corn, etc.	Drilled, (a)
do	Cole 10 & 14	1 R-wheel, swing beam	Rotating pan with plow	(a)	Peanuts, row crops	Drilled, (a)
do	Cole 12 & 16	1 rear wheel	Rotating pan with plow	(a)	Corn, beans, etc.	Drilled, (a)
do	Clark	1 rear wheel	Rotating pan with plow	(a)	Corn, beans, etc.	Drilled, (a)
Cutaway Harrow Co.	John Deere 108	1 front wheel	Rotating pan with plow	(a)	Corn, beans, etc.	Hill or drill, band at each side of hill, on seed level
Deere & Manceur Works	John Deere 227	1 rear wheel	Rotating plate with deflector	50 to 250	Cotton, corn, etc.	Drilled, band 1" wide, 1 to 2" directly under seed
do	John Deere 245	1 front wheel	Rotating plate with deflector	50 to 200	Corn, beans, etc.	Drilled, band 1/2" wide, 1/2" to each side, 1/2" above seed level
Eureka Mower Co.	Eureka 2	1 front wheel	Rotating pan with plow	50 to 300	Corn, beans, etc.	Drilled, band 1" wide, about 1/2" directly above seed
Gantt Manufacturing Co.	Gantt	1 front wheel	Star wheel	115 to 800	Corn, beans, etc.	Drilled, band each side of row
do	Gantt 1	1 front wheel	Rotating agitator	(a)	Cotton	Drilled, in furrow with seed
do	Gantt 4	1 rear wheel	Rotating plate	(a)	Corn, beans, etc.	Drilled, band under seed
do	P & O 156 A	1 front wheel	Rotating plate	(a)	Corn, beans, etc.	Drilled, band under seed
International Harvester Co.	P & O 19	1 rear wheel	Rotating plate	(a)	Cotton, corn, etc.	Drilled, above seed. Deposited, surface ahead of seed shoe
do	McC-Deering	1 rear wheel	Rotating flat plate	50 to 350	Cotton, corn, etc.	Drilled, in seed furrow
do	McC-Deering	1 front wheel	Rotating flat plate	50 to 350	Corn, beans, etc.	Drilled, in seed furrow
do	McC-D. 163 & 165	1 rear wheel	Vibrating open-end pan	(a)	Cotton, corn, etc.	Drilled, band under seed, depth adjustable
Masey-Harris Co.	Masey-H. 125A126	1 front wheel	Rotating pan with plow	(a)	Cotton, corn, etc.	Drilled, (a)
Minnesota-Moline Power Imp Co	J G	1 rear wheel	Rotating pan with plow	0 to 700	Cotton, corn, etc.	Drilled, either in furrow with or under seed
do	G F	1 front wheel	Rotating pan with plow	0 to 700	Cotton, corn, etc.	Drilled, band under seed
do	Blackhawk	1 rear wheel	Rotating pan with plow	100 to 800	Cotton, corn, etc.	Drilled, (a)
do	Blackhawk 160	1 front wheel	Rotating pan with plow	100 to 800	Cotton, corn, etc.	Drilled, band under seed
do	Short Boy 63	1 rear wheel	Rotating plate	40 to 690	Cotton, corn, etc.	Drilled, in furrow above seed
do	Oliver 6A & 7	1 rear wheel	Flagger wheel	(a)	Cotton, corn, etc.	Drilled, in furrow under seed
do	Oliver 51 & 52	1 front wheel	Revolving blade-top delivery	50 to 600	Corn, beans, etc.	Drilled, (a)
do	Eclipse	1 rear wheel	Revolving blade-top delivery	25 to 700	Corn, beans, etc.	Hill or drill, band 6" long, 2" to each side on seed level
do	King of Corn F	1 rear wheel	(a)	50 to 500	Corn, beans, etc.	Hill or drill, band 6" long, 2" to each side on seed level
Southern Plow Co (Dallas, Tex)	Ledbetter 20	1 front wheel	Rotating pan with plow	50 to 500	Cotton, corn, etc.	Drilled, band under seed
Woble Mfg Co.	Planters 12, 16, 41	Disc at each. only	Rotating pan with plow	Max. 400	Cotton, beans, etc.	Band 2.5" to one side of row - depth adjustable







Table II (page 5)

12. DISTRIBUTORS COMBINED WITH RIGID FRAME TWO-WHEEL RIDING-TYPE PLANTERS - HORSE DRAWN

Manufacturer	Trade name or Catalog No.	General type of machine	Size, No of rows	General type of fertilizer dispenser	Rates in Lbs/A	Crops or Conditions	Placement of the fertilizer in the soil
Avery, B.F., & Sons Co.	Mr Bill	Ridge or list furrow	1 & 2 row	Vibrating open-end pan	(a)	Cotton, corn, etc.	Drilled, at one side of seed furrow
Case, J.I., Co.	Case 17 & 22	Ridge or list furrow	1 & 2 row	(17) Cone; (22) Star wheel	(a)	Cotton, corn, etc.	Drilled, sides; deposited ahead of seed shovel
Deere & Mansur Works	J Deere 111	Ridge or list furrow	1 & 2 row	Rotating pan with plow	50 to 700	Cotton, corn, etc.	Drilled, $\frac{3}{4}$ " to sides, 1" above seed level
Parquhar, A.B., Co., Ltd.	Iron Age 481	Ridge or level	1 & 2 row	Endless belt	Wide range	Cotton, etc.	Drilled, 2" band, 2.5" to each side - Depth adj.
do	Iron Age 491	Ridge or level	1 & 2 row	Endless belt	Wide range	Beans, etc.	Drilled, 2" band, 2.5" to each side - Depth adj.
do	Parquhar	Ridge or level	2 row	Finger wheel	(a)	Corn, etc.	Drilled, (a)
International Harvester Co.	Tip-top 22 & 23	Ridge or list furrow	1 & 2 row	(a)	(a)	Cotton, corn, etc.	Drilled, 2-3" band, 2" to one side, above seed level
Kelly, G.A., Flow Co.	Devy Crockett	Ridge or list furrow	1 row	(a)	(a)	Cotton, corn, etc.	Drilled, sides; deposited ahead of seed shovel
Massey-Harris Co.	Massey-Harris	Ridge or list furrow	1 & 2 row	Rotating flat plate	25 to 200	Cotton, corn, etc.	Drilled, sides and above seed
Minneapolis-Moline P. Imp Co	D-P	Ridge or list furrow	1 row	(a)	(a)	Cotton, corn, etc.	Drilled, sides; deposited ahead of seed shovel
Oliver Farm Equip. Sales Co.	26	Ridge or list furrow	1 row	(a)	(a)	Cotton, corn, etc.	Drilled, sides; deposited ahead of seed shovel
Southern Flow Co. (Dallas, T)	Ledbetter 3	Ridge or list furrow	1 row	Rotating pan with plow	50 to 500	Cotton, corn, etc.	Drilled, sides; deposited ahead of seed shovel

13. DISTRIBUTORS COMBINED WITH TWO-ROW, ADJUSTABLE RUNNER-FRAME (CORN BELT TYPE) PLANTERS - HORSE DRAWN

Avery, B.F., & Sons Co.	Sure drop	Rotating pan with plow	(a)	Cotton, corn, etc.	Hill or drill, sides above seed - plain divider	
do	Twin drive	Rotating pan with plow	(a)	Cotton, corn, etc.	Drill, in furrow above seed	
Blount Flow Works	Blount	(a)	(a)	Corn, beans, etc.	Drilled, in furrow above seed	
Bradley 497	Star wheel and agitator	(a)	(a)	Corn, beans, etc.	Hill or drill, band 6" long directly above seed	
Dual band 33	Rotating pan	25 to 800	(a)	Corn, beans, etc.	Hill or drill, 2" band, 11" long, 1" to each side, $\frac{1}{2}$ " above seed level	
32 ME	Rotating plate	(a)	(a)	Cotton, corn, etc.	Drilled, (a)	
Deere & Mansur Works	J Deere 475; 999	Rotating pan with plow	75 to 250	Corn, beans, etc.	Hill or drill, 1" band, 14" long, 1" to each side, $\frac{1}{2}$ " above seed level	
do	J Deere 476; 919	Rotating pan with plow	75 to 700	Corn, peas, etc.	Drilled, 1" band, 1" to each side, $\frac{3}{4}$ " above seed level	
Engineering Metal Prod. Corp	Chambers, runner, only	Rotating pan with plow	(a)	Cotton, corn, etc.	Hill or drill, 1" band 8" long, 1" to one side, $\frac{1}{2}$ " below seed level	
Eureka 4	Star wheel	115 to 800	(a)	Corn, beans, etc.	Drilled, band at each side of row	
Farm Tools, Inc.	(a)	(a)	(a)	Corn, beans, etc.	Hill or drill, 1" band 6-8" long, 1" to each side, adj. 0-2" above seed level	
International Harvester Co.	McCleerling 100 Sr	Rotating pan with plow	50 to 500	Corn, beans, etc.	Hill or drill, 1" band 6-8" long, 1" to each side, adj. 0-2" above seed level	
do	P & O 20 & 34	Star wheel	Max. 400	Cotton, corn, etc.	Drilled, band each side of row	
Madison Flow Co.	Madison 19, Victor 20	Rotating plate	(a)	Corn, beans, etc.	Hill or drill, mixed with soil above seed	
Massey-Harris Co.	Split-boot	Rotating flat plate	25 to 200	Corn, beans, etc.	Hill or drill, $\frac{3}{4}$ " band 8" long, 1" to each side, adj. seed level to surface	
do	Single boot	Rotating flat plate	25 to 200	Corn, beans, etc.	Hill or drill, $\frac{3}{4}$ " band 8" long, directly above adj. from seed to surface	
Minneapolis-Moline P. Imp Co	Moline 25 & 26	Rotating pan with plow	(a)	Corn, beans, etc.	Hill or drill, 2" band 8" long, at sides and behind hill	
do	Four-wheel	(a)	0 to 700	Corn, beans, etc.	Hill or drill, (a)	
Ohio Cultivator Co.	Blackhawk (several)	(a)	0 to 800	Cotton, corn, etc.	Hill or drill, (a)	
Oliver Farm Equip. Sales Co.	Oliver 9B	Rotating pan with plow	(a)	Corn, beans, etc.	Hill or drill, band at each side above seed level	
Rock Island Flow Co.	Rock Island 1 & 555	Star wheel	50 to 600	Corn, beans, etc.	Hill or drill, 1" band 6" long, 2" to each side, 1" above seed level	
Sargent, Osgood & Roundy Co.	Eclipse	Rev. blade-top delivery	50 to 600	Corn, beans, etc.	Hill or drill, band 6" long, 2" to each side, on seed level	

14. DISTRIBUTORS COMBINED WITH TRACTOR PLANTERS - TWO OR MORE-ROWS

Case, J.I. Co.	Ck-row C64	Tractor mounted, motor lift	4 row	Rotating pan	25 to 800	Corn, beans, etc.	Hill or drill, 2" band 11" long, 1" to each side, $\frac{1}{2}$ " above seed level
Deere & Mansur Works	250	Tractor mounted	2 row	Rotating pan	75 to 500	Cotton, corn, etc.	Drilled, band 1" wide, $\frac{3}{4}$ " to one side, 3" deep
do	Ck-row GP 450	Tractor drawn	4 row	(a)	(a)	Corn, etc.	Hill or drill, band each side slightly above seed level
do	Ck-row GP 301	Tractor mounted	3 row	Ro. pan with plow	(a)	Corn, etc.	Hill or drill, band each side slightly above seed level
Parquhar, A.B., Co., Ltd.	Iron Age 481 & 491	Tractor drawn	2, 3, 4 row	Endless belt	(a)	Cotton, beans, etc.	Drilled, 2" band, 2" to each side - depth adjustable
International Harvester Co.	Farnall F & FA	Tractor mounted	2 & 4 row	Rotating pan	50 to 500	Cotton, corn, etc.	Hill or drill, band 1" wide, $\frac{3}{4}$ " to each side, 1" above seed level
do	Farnall	Tractor drawn, lister planter	2 & 4 row	Rotating pan	(a)	Cotton, corn, etc.	Drilled, (a)
do	Farnall-12 (33A)	Tractor mounted	2 row	Rotating agitator	200 to 900	Cotton, corn, etc.	Drilled, band at one side of row - depth adjustable
Minneapolis-Moline P. Imp Co	M-M Ck-row	Tractor drawn	3 & 4 row	(a)	0 to 700	Cotton, corn, etc.	Hill or drill, (a)
Oliver Farm Equip Sales Co	Row crop	Tractor mounted	2 & 4 row	(a)	(a)	Cotton, corn, etc.	Drilled, band either each side or above seed
do	Row crop	Tractor mounted, lister type	2 row	(a)	(a)	Cotton, corn, etc.	Drilled, (a)







Table II (page 6)

## 15. DISTRIBUTORS COMBINED WITH BEET AND BEAN DRILLS

Manufacturer	Trade name or Catalog No.	General type of machine	Size	General type of fertilizer dispenser	Rates in lbs/A	Crops or conditions for which intended	Placement of the fertilizer in the soil
Case, J.I., Co.	43	Tractor mounted, motor lift	6 row	Rotating pan	25 to 800	Sugar beets, beans, etc	Drilled, in furrow with seed
do	Case	Horse drawn	4 row	Star wheel	60 to 780	Sugar beets, beans, etc	Drilled, in furrow with seed
Deere & Mansour Works	J Deere 64	Planter-cultivator, 2 horse	2 row	Rotating plate with plow	(a)	Sugar beets, beans, etc	Drilled, in furrow with seed
do	11,12,14 & J Deere 22	Planter-cultivator, 2 horse	4 row	Rotating pan with plow	(a)	Sugar beets, beans, etc	Drilled, band each side above seed level
International Harvester Co.	McC-D. 6 & 7	Tractor or horse drawn	4 row	Star wheel	50 to 524	Sugar beets, beans, etc	Drilled, in furrow with seed
Minneapolis-Moline P Imp. Co.	Moline DF-6	2 horse	4 row	Star wheel & adj. gate	72 to 580	Sugar beets, beans, etc	Drilled, in furrow with seed
Ohio Cultivator Co.	Thomas	2 horse	4 row	Finger wheel	50 to 1000	Sugar beets, beans, etc	Drilled, in furrow with seed
Oliver Farm Equip. Sales Co.	Oliver 9	2 horse	4 row	Finger wheel	50 to 290	Sugar beets, beans, etc	Drilled, in furrow with seed
Minneapolis-Moline P Imp Co	MM	Drill or Check-row, tractor	6 row (a)		50 up	Sugar beets, beans, etc	Drilled either above or at side of seed

## 16. DISTRIBUTORS COMBINED WITH POTATO PLANTERS

Manufacturer	Trade name or Catalog No.	General type of machine	Size	General type of fertilizer dispenser	Rates in lbs/A	Crops or conditions for which intended	Placement of the fertilizer in the soil
Aspinwall-Watson Co.	Aspinwall 3	Picker wheel, horse drawn	1 & 2 row	Vertical paddle wheel	(a)	Potatoes	Drilled, mixed with soil at sides of row
Bradley, David, Mfg. Works	B-Schofield 5	Endless conveyor, horse drawn	1 row	Star wheel & agitator	(a)	Potatoes	Drilled, mixed with soil 3" to one side
Champion Corporation	Champion 22	Cup chain, horse drawn	1 & 2 row	Star wheel	200 to 1500	Potatoes	Drilled, ahead of seed shoe - mixed in row
Ohio Cultivator Co.	Star	Picker wheel, also bucket type	1 & 2 row	(a)	(a)	Potatoes	Drilled, ahead of seed shoe - mixed in row
Eureka Mower Co.	Eureka 26	Picker wheel, horse drawn	1 & 2 row	Twin screw	(a)	Potatoes	Drilled, in band at each side of row
Farquhar, A.B., Co., Ltd.	Iron Age	Assisted horse, tractor	1 to 4 row	Endless belt	300 to 3750	Potatoes	Drilled, 2" band, 2" to each side, depth adj.
do	Iron Age	Picker wheel, horse, tractor	1 to 4 row	Endless belt	300 to 3750	Potatoes	Drilled, 2" band, 2" to each side, depth adj.
International Harvester Co.	McC-Deering	Picker wheel, horse & tractor	1 & 2 row	Rotating plate with plow	150 to 3000	Potatoes	Drilled, 2" band, 2" to each side, depth adj.
LeRoy Plow Co.	Evans Superior	Picker wheel, horse & tractor	1 & 2 row	Star wheel	100 to 1800	Potatoes	Drilled, band each side of row
North Star Mfg. Co.	North Star	Fertilizer hopper only	1 per row	Endless link chain	(a)	Potatoes	Drilled, (a)
Oliver Farm Equip Sales Co.	Oliver 5 & 55	Picker wheel, horse & tractor	1 & 2 row	Double-fan paddle	0 to 3000	Potatoes	Drilled, mixed with soil at each side & above
Peck, S.H., & Sons	Aurora	Picker wheel, horse & tractor	1 row	Rotating plate	250 to 1800	Potatoes	Drilled, 2" band, 3" to each side, adj. level
Syracuse Chilled Plow Co (Deere)	John Deere	Picker wheel, horse & tractor	1 & 2 row	Rotating plate & deflector	100 to 3400	Potatoes	Drilled, band either at each side or in row

## 17. DISTRIBUTORS COMBINED WITH GRAIN DRILLS

Manufacturer	Trade name or Catalog No.	General type of machine	Size	General type of fertilizer dispenser	Rates in lbs/A	Crops or conditions for which intended	Placement of the fertilizer in the soil
Case, J.I., Co.	Case 34 & 36	End wheel, horse & tractor	Range 3	Star wheel with adj. gate	60 to 1120	Small grain	Drilled, in furrow with seed
do	30	Walking, 1 front wheel, 1 horse	3 run	(a)	(a)	Small grain	Drilled, in furrow with seed
do	30	Walking, 1 front wheel, 1 horse	1 row	(a)	(a)	Small grain	Drilled, in furrow with seed
Needham-Crown	Needham-Crown	End wheel, horse drawn	8 to 13 run	Star wheel with adj. gate	100 to 825	Small grain	Drilled, in furrow with seed
Peoria Union	Peoria Union	End wheel, horse & tractor	6 to 16 run	Star wheel with adj. gate	(a)	Small grain	Drilled, in furrow with seed
Farquhar	Farquhar	Walking, 3 wheel, 1 horse	5 run	Star wheel with adj. gate	80 to 1000	Small grain	Drilled, in furrow with seed
Gantt Manufacturing Co.	Gantt	End wheel, horse drawn	8 to 12 run	Star wheel with adj. gate	0 to 1030	Small grain	Drilled, in furrow with seed
McC-Deering	McC-Deering	Walking, 1 front wheel, 1 horse	1 row	(a)	(a)	Small grain	Drilled, in furrow with seed
do	McC-Deering	End wheel, horse & tractor	6 to 28 run	Star wheel with adj. gate	25 to 1135	Small grain	Drilled, in furrow with seed
do	McC-Deering	Walking, 3 wheel, 1 horse	5 run	Star wheel with adj. gate	(a)	Small grain	Drilled, in furrow with seed
do	McC-Deering	Separate fert. delivery attach	-----	-----	-----	Small grain	Drilled, in furrow above seed distance adj
King Drill Mfg. Co.	King	Conventional, horse & tractor	10 to 20 run	(a)	(a)	Small grain	Drilled, in furrow with seed
Massey-Harris Co.	Massey-H 20B	End wheel, horse & tractor	9,11,13 run	Star wheel	50 to 800	Small grain	Drilled, in furrow with seed
Minneapolis-Moline P Imp Co.	Monitor & Sr	End wheel, horse & tractor	10 & 12 run	Star wheel	(a)	Small grain	Drilled, in furrow with seed
do	Monitor	End wheel, horse drawn	Range	Star wheel	60 to 2400	Small grain	Drilled, in furrow with seed
Ohio Cultivator Co.	Thomas	End wheel, horse & tractor	6 to 24 run	Finger wheel	(a)	Small grain	Drilled, in furrow with seed
Oliver Farm Equip Sales Co.	Superior	End wheel, horse & tractor	Range	(a)	(a)	Small grain	Drilled, in furrow with seed
do	10	Walking, 3 wheel, 1 horse	5 run	(a)	(a)	Small grain	Drilled, in furrow with seed
Ontario Drill Co.	Ontario	End wheel, horse	6 to 15 run	Finger wheel	75 to 900	Small grain	Drilled, either 1 1/2" band, 2 1/2" to one side, depth adj. or in furrow with seed
Van Brunt Mfg. Co. (Deere)	Van Brunt F	End wheel, horse & tractor	9 to 16 run	Star wheel with adj. gate	24 to 1225	Small grain	Drilled, either in furrow with seed or above
do	Van Brunt	End wheel, horse & tractor	12 to 28 run	Star wheel with adj. gate	15 to 500	Small grain	Drilled, either in furrow with seed or above
do	Van Brunt	Walking, 3 wheel, 1 horse	5 run	Star wheel with adj. gate	60 to 1070	Small grain	Drilled, either in furrow with seed or above



TABLE 1. SUMMARY OF DATA FOR THE 1960-1961 SEASON									
STATION	DATE	TIME	WIND DIRECTION	WIND SPEED (MPH)	WAVE HEIGHT (FT)	SEA STATE	WAVE PERIOD (SEC)	WAVE LENGTH (FT)	WAVE ENERGY (KCAL/M <sup>2</sup> )
STATION 1	1960-1961	10:00	090	10	2.0	1	8.0	100	0.1
STATION 2	1960-1961	11:00	090	12	2.5	1	8.0	100	0.1
STATION 3	1960-1961	12:00	090	15	3.0	1	8.0	100	0.1
STATION 4	1960-1961	13:00	090	18	3.5	1	8.0	100	0.1
STATION 5	1960-1961	14:00	090	20	4.0	1	8.0	100	0.1
STATION 6	1960-1961	15:00	090	22	4.5	1	8.0	100	0.1
STATION 7	1960-1961	16:00	090	25	5.0	1	8.0	100	0.1
STATION 8	1960-1961	17:00	090	28	5.5	1	8.0	100	0.1
STATION 9	1960-1961	18:00	090	30	6.0	1	8.0	100	0.1
STATION 10	1960-1961	19:00	090	32	6.5	1	8.0	100	0.1
STATION 11	1960-1961	20:00	090	35	7.0	1	8.0	100	0.1
STATION 12	1960-1961	21:00	090	38	7.5	1	8.0	100	0.1
STATION 13	1960-1961	22:00	090	40	8.0	1	8.0	100	0.1
STATION 14	1960-1961	23:00	090	42	8.5	1	8.0	100	0.1
STATION 15	1960-1961	00:00	090	45	9.0	1	8.0	100	0.1
STATION 16	1960-1961	01:00	090	48	9.5	1	8.0	100	0.1
STATION 17	1960-1961	02:00	090	50	10.0	1	8.0	100	0.1
STATION 18	1960-1961	03:00	090	52	10.5	1	8.0	100	0.1
STATION 19	1960-1961	04:00	090	55	11.0	1	8.0	100	0.1
STATION 20	1960-1961	05:00	090	58	11.5	1	8.0	100	0.1
STATION 21	1960-1961	06:00	090	60	12.0	1	8.0	100	0.1
STATION 22	1960-1961	07:00	090	62	12.5	1	8.0	100	0.1
STATION 23	1960-1961	08:00	090	65	13.0	1	8.0	100	0.1
STATION 24	1960-1961	09:00	090	68	13.5	1	8.0	100	0.1
STATION 25	1960-1961	10:00	090	70	14.0	1	8.0	100	0.1
STATION 26	1960-1961	11:00	090	72	14.5	1	8.0	100	0.1
STATION 27	1960-1961	12:00	090	75	15.0	1	8.0	100	0.1
STATION 28	1960-1961	13:00	090	78	15.5	1	8.0	100	0.1
STATION 29	1960-1961	14:00	090	80	16.0	1	8.0	100	0.1
STATION 30	1960-1961	15:00	090	82	16.5	1	8.0	100	0.1
STATION 31	1960-1961	16:00	090	85	17.0	1	8.0	100	0.1
STATION 32	1960-1961	17:00	090	88	17.5	1	8.0	100	0.1
STATION 33	1960-1961	18:00	090	90	18.0	1	8.0	100	0.1
STATION 34	1960-1961	19:00	090	92	18.5	1	8.0	100	0.1
STATION 35	1960-1961	20:00	090	95	19.0	1	8.0	100	0.1
STATION 36	1960-1961	21:00	090	98	19.5	1	8.0	100	0.1
STATION 37	1960-1961	22:00	090	100	20.0	1	8.0	100	0.1
STATION 38	1960-1961	23:00	090	102	20.5	1	8.0	100	0.1
STATION 39	1960-1961	00:00	090	105	21.0	1	8.0	100	0.1
STATION 40	1960-1961	01:00	090	108	21.5	1	8.0	100	0.1
STATION 41	1960-1961	02:00	090	110	22.0	1	8.0	100	0.1
STATION 42	1960-1961	03:00	090	112	22.5	1	8.0	100	0.1
STATION 43	1960-1961	04:00	090	115	23.0	1	8.0	100	0.1
STATION 44	1960-1961	05:00	090	118	23.5	1	8.0	100	0.1
STATION 45	1960-1961	06:00	090	120	24.0	1	8.0	100	0.1
STATION 46	1960-1961	07:00	090	122	24.5	1	8.0	100	0.1
STATION 47	1960-1961	08:00	090	125	25.0	1	8.0	100	0.1
STATION 48	1960-1961	09:00	090	128	25.5	1	8.0	100	0.1
STATION 49	1960-1961	10:00	090	130	26.0	1	8.0	100	0.1
STATION 50	1960-1961	11:00	090	132	26.5	1	8.0	100	0.1
STATION 51	1960-1961	12:00	090	135	27.0	1	8.0	100	0.1
STATION 52	1960-1961	13:00	090	138	27.5	1	8.0	100	0.1
STATION 53	1960-1961	14:00	090	140	28.0	1	8.0	100	0.1
STATION 54	1960-1961	15:00	090	142	28.5	1	8.0	100	0.1
STATION 55	1960-1961	16:00	090	145	29.0	1	8.0	100	0.1
STATION 56	1960-1961	17:00	090	148	29.5	1	8.0	100	0.1
STATION 57	1960-1961	18:00	090	150	30.0	1	8.0	100	0.1
STATION 58	1960-1961	19:00	090	152	30.5	1	8.0	100	0.1
STATION 59	1960-1961	20:00	090	155	31.0	1	8.0	100	0.1
STATION 60	1960-1961	21:00	090	158	31.5	1	8.0	100	0.1
STATION 61	1960-1961	22:00	090	160	32.0	1	8.0	100	0.1
STATION 62	1960-1961	23:00	090	162	32.5	1	8.0	100	0.1
STATION 63	1960-1961	00:00	090	165	33.0	1	8.0	100	0.1
STATION 64	1960-1961	01:00	090	168	33.5	1	8.0	100	0.1
STATION 65	1960-1961	02:00	090	170	34.0	1	8.0	100	0.1
STATION 66	1960-1961	03:00	090	172	34.5	1	8.0	100	0.1
STATION 67	1960-1961	04:00	090	175	35.0	1	8.0	100	0.1
STATION 68	1960-1961	05:00	090	178	35.5	1	8.0	100	0.1
STATION 69	1960-1961	06:00	090	180	36.0	1	8.0	100	0.1
STATION 70	1960-1961	07:00	090	182	36.5	1	8.0	100	0.1
STATION 71	1960-1961	08:00	090	185	37.0	1	8.0	100	0.1
STATION 72	1960-1961	09:00	090	188	37.5	1	8.0	100	0.1
STATION 73	1960-1961	10:00	090	190	38.0	1	8.0	100	0.1
STATION 74	1960-1961	11:00	090	192	38.5	1	8.0	100	0.1
STATION 75	1960-1961	12:00	090	195	39.0	1	8.0	100	0.1
STATION 76	1960-1961	13:00	090	198	39.5	1	8.0	100	0.1
STATION 77	1960-1961	14:00	090	200	40.0	1	8.0	100	0.1
STATION 78	1960-1961	15:00	090	202	40.5	1	8.0	100	0.1
STATION 79	1960-1961	16:00	090	205	41.0	1	8.0	100	0.1
STATION 80	1960-1961	17:00	090	208	41.5	1	8.0	100	0.1
STATION 81	1960-1961	18:00	090	210	42.0	1	8.0	100	0.1
STATION 82	1960-1961	19:00	090	212	42.5	1	8.0	100	0.1
STATION 83	1960-1961	20:00	090	215	43.0	1	8.0	100	0.1
STATION 84	1960-1961	21:00	090	218	43.5	1	8.0	100	0.1
STATION 85	1960-1961	22:00	090	220	44.0	1	8.0	100	0.1
STATION 86	1960-1961	23:00	090	222	44.5	1	8.0	100	0.1
STATION 87	1960-1961	00:00	090	225	45.0	1	8.0	100	0.1
STATION 88	1960-1961	01:00	090	228	45.5	1	8.0	100	0.1
STATION 89	1960-1961	02:00	090	230	46.0	1	8.0	100	0.1
STATION 90	1960-1961	03:00	090	232	46.5	1	8.0	100	0.1
STATION 91	1960-1961	04:00	090	235	47.0	1	8.0	100	0.1
STATION 92	1960-1961	05:00	090	238	47.5	1	8.0	100	0.1
STATION 93	1960-1961	06:00	090	240	48.0	1	8.0	100	0.1
STATION 94	1960-1961	07:00	090	242	48.5	1	8.0	100	0.1
STATION 95	1960-1961	08:00	090	245	49.0	1	8.0	100	0.1
STATION 96	1960-1961	09:00	090	248	49.5	1	8.0	100	0.1
STATION 97	1960-1961	10:00	090	250	50.0	1	8.0	100	0.1
STATION 98	1960-1961	11:00	090	252	50.5	1	8.0	100	0.1
STATION 99	1960-1961	12:00	090	255	51.0	1	8.0	100	0.1
STATION 100	1960-1961	13:00	090	258	51.5	1	8.0	100	0.1



Table II (page 7)

## 18. DISTRIBUTORS COMBINED WITH TRANSPLANTERS

Manufacturer	Trade name or Catalog No.	General type of machine	Size	General type of fertilizer dispenser	Rate in Lbs/A	Crops or conditions for which intended	Placement of the fertilizer in the soil
Empire Flow Co.	Tiger & Dayton	Manual	1 row	(a)	(a)	Tomatoes, tobacco, etc.	Drilled, at one side of row
Farquhar, A.B., Co. Ltd.	Iron Age 500B	Manual	1 row	Endless belt	(a)	Tomatoes, tobacco, etc.	Drilled, band 2" to each side of row - depth adj.
do	Iron Age 500D	Manual	1 row	Descending scraper & feed wheel	150 to 2500	Tomatoes, tobacco, etc.	Drilled, mixed with soil in row
Hamilton Mfg. Co.	Hamilton H	Conveyor, mech.	1 row	(a)	(a)	Tomatoes, tobacco, etc.	Hill or drill, band each side, location adj.
Holland Celery Pl. Co.	Holland	Conveyor, mech.	1 row	Rotating flat plate	(a)	Tomatoes, tobacco, etc.	Drilled, band 1" wide, 3" to each side, 3" below surface
Madison Flow Co.	Bemis	Manual	1 row	(a)	(a)	Tomatoes, tobacco, etc.	Drilled, mixed in row - deposited on surface ahead of planting shoe
Massey-Harris Co.	Massey-Harris 3	Manual	1 row	Rotating plate, 3 deflectors	25 to 600	Tomatoes, tobacco, etc.	Drilled, 2" band over 4" to 6" either to one or each side and band over row, adj. to 3" depth
do	Massey-Harris 3	Manual	1 row	Rotating plate, 3 deflectors	25 to 600	Tomatoes, tobacco, etc.	Drilled, in row - deposited in furrow ahead of shoe
New Idea, Inc.	New Idea	Manual	1 row	Rotating plate, 3 deflectors	100 to 1500	Tomatoes, tobacco, etc.	Drilled, band 1 1/2" wide, 5" to each side and mixed in center; depth adj. 2 to 5"

## 19. DISTRIBUTORS COMBINED WITH CULTIVATORS AND HARROWS

Allen, S.L., & Co., Inc.	Planet Jr 230	Walking, 1 front wheel, 1 horse	1 row	Knocker	200 to 2000	Row crops, irrigated	Band or broadcast, 12-22" strip, covered or mixed
do	Planet Jr 230A	Walking, 2 front wheels, 1 horse	1 row	Knocker	200 to 2000	Row crops, flat land	Band or broadcast, 12-22" strip, covered or mixed
Avery, B.F. & Sons Co.	Vibrator	Walking, plow stock attach.	1 or 2 row	Vibrating 2-stream pan	(a)	Row crops	Two bands thru adj. tubes ahead of cultivator sweep
do	Attachment	Walking & riding, wheel, cult.	1 row	Rotating pan with plow	(a)	Row crops	Band either side of row in furrows, position adj.
Blount	Blount	Walking & riding, wheel, 2 horse	1 row	Rotating pan	(a)	Row crops	Band each side in furrows or mixed
Case, J. I., Co.	Case 44	Riding, wheel	2 & 4 row	Rotating pan	25 to 800	Row crops	Band each side of row in furrows, position adj.
do	Case 32	Riding, wheel	2 horse	Rotating pan	25 to 800	Row crops	Band each side of row in furrows, position adj.
Deere & Manure Works	J Deere 64	Riding, wheel	2 horse	Rotating pan with plow	(a)	Sugar beets, beans, etc.	Band each side of row in furrows, position adj.
do	KL 211	Riding, wheel	1 row	Rotating pan with plow	(a)	Corn, similar row crops	Band each side of row in furrows, position adj.
do	John Deere	Tractor mounted	2 row	(a)	(a)	Cotton, etc.	Band at side of row in furrows, position adj.
Fertilizer Attach. Co.	U and J	Walking, harrow	1 row	Plunger	(a)	Row crops	(a) Spots 12 to 48" apart, operated by hand or floating drive wheel
Fresh Fire Pump & Mfg. Co.	Fowler	Attach. only, any cultivator	1 row	Rotating agitator	50 to 500	Row crops	Either 2 bands or mixed with soil; 2 rows side-by-side
Harriman Mfg. Co.	New 4	Walking cult. & plows, 2 horse	1 row	Rotating pan	0 to 1000	Row crops	Band each side of row in furrows, position adj.
International Harv. Co.	McCormick 30	Riding, wheel, 2 horse	2 row	Rot. pan with adj. plow	50 to 400	Sugar beets, beans, etc.	Band each side of row in furrows, position adj.
do	McCormick 30	Riding, 3 wheel	2 row	(a)	(a)	Cotton, etc.	Band at side of row in furrows, position adj.
North Star Mfg. Co.	North Star	Tractor mounted	2 row	Endless link chain	(a)	Row crops	Band each side of row in furrows, position adj.
Ohio Cultivator Co.	Ohio	Attach. only, wheel cultivators	2 horse	(a)	(a)	Row crops	Band each side of row in furrows, position adj.
Todd Company, Inc.	Todd 5	Riding, wheel	1 row	(a)	(a)	Row crops	Band each side of row in furrows, position adj.
do	Todd 5	Walking, 2 wheel	1 row	Vibrating pan	(a)	Row crops	Mixed with soil

## 20. DISTRIBUTORS COMBINED WITH DISC HARROWS

Farm Tools, Inc.	Broadcast drill	7 to 10 ft	(a)	General	(a)	General	Band in each disc furrow
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## 21. DISTRIBUTORS COMBINED WITH PLOWS

Allen, S.L. & Co., Inc.	Planet Jr 215	Attachment for garden plow	1 row	Knocker	100 to 1500	Vegetable crops, etc.	Band 1 to 3" wide in furrow 1 to 3" deep
American Cyanamid Co.	Aero	Attachment, walking-plow stock	1 row	Gravity	25 to 200	Gen'l granular fert.	Band in plow furrow

## 22. DISTRIBUTING ATTACHMENTS FOR MANURE SPREADERS

Bloom Mfg. Co.	New Bloom	Lime attachment	(a)	Endless web & 4 disc spreaders	(a)	General, lime	Broadcast on surface
International Harv. Co.	McC-D. 44	Lime attachment	12 ft	Endless web & 2 plate-fan scatterers	(a)	General, lime	Broadcast on surface
Litchfield Mfg. Co.	M	Lime attachment	8 ft	Endless web & rotating wing scatterers	(a)	General, lime	Broadcast on surface
Minneapolis-Moline P. Imp Co	Moline	Lime attachment	(a)	Endless web & 2 plate-fan scatterers	(a)	General, lime	Broadcast on surface
Oliver Farm Equip. Sales Co	Superior	Lime attachment	(a)	Endless web & 2 plate-fan scatterers	(a)	General, lime	Broadcast on surface
New Idea Inc.	New Idea	Lime attachment	(a)	Endless web & 2 plate-fan scatterers	(a)	General, lime	Broadcast on surface

## 23. DISTRIBUTING ATTACHMENTS FOR WATERING AND IRRIGATION SYSTEMS

Electric Spray Co.	Plantillizer	Hose nozzle	(a)	Soluble fertilizer cartridge	(a)	Lawns, etc garden hose	Broadcast on surface with water
do	Hydro mixing	Nozzle & liquid container	(a)	Vacuum syphon	(a)	Lawns, etc	Broadcast on surface with water
McClain Bros. Co.	Hydro-Mixer	Barrel, pump and mixer	(a)	Pumped into water line	(a)	Golf greens, etc.	Broadcast on surface with water
Schen Products Co., Ltd.	Frizer	Bypass dispenser unit	(a)	(a)	60 to 480 lbs/hr	Gen'l, gravity irrigation	Row or broadcast with water
do	Schen	Venturi tube type	(a)	(a)	(a)	Gen'l, press. irrig. system	Row or broadcast with water
do	Schen	Mixing unit	(a)	(a)	(a)	Lawns, garden hose	Broadcast on surface with water
Thompson, O.E. & Sons	Thompson	Cart, barrel sprinkler	6 ft	Agitator & gravity flow	(a)	Gen'l, small areas	Broadcast on surface with water
Vex Corporation	Vex	Mixing cylinder in water line	(a)	Soluble fertilizer cartridge	(a)	Lawns, garden hose	Broadcast on surface with water



